

# NASA's Planetary Geologic Mapping Community

## REPORT & FINDINGS



MAPSIT Meeting  
Flagstaff, AZ  
June 15, 2017



# PURPOSE & SUMMARY

- Annual meeting 'required' for NASA-funded planetary geologic mappers
  - Report progress on mapping projects
  - Discuss problems or issues in our community
- This meeting's statistics
  - 21 oral science presentations + 2 technical talks
  - 14 poster presentations
  - Two community discussion sections
- SS objects' maps presented
  - Mercury, Mars, Vesta, Ceres, Europa, Titan, Enceladus

# MEETING AGENDA

## *Monday, June 12*

- 9am-12n: Oral presentations: Mercury, Venus, Mars maps
- 1pm-4pm: Oral presentations: Mars maps
- 4-5:30pm: Community Discussion I
- 5:30-7:30pm: Poster presentations, all Solar System bodies

## *Tuesday, June 13*

- 9-11:00am: Oral presentations: Mars maps
- 12:30-2:10pm: Oral presentations: Small body & outer planet satellite maps
- 2:10pm: Community Discussion II

# FINDINGS

## *Finding 1*

- The planetary geologic mapping community recognizes the significance of NASA's long-term investment in not only supportive infrastructure (e.g., USGS), but also institutional and scientific knowledge (e.g., discipline scientists) with respect to the processes and products of planetary geologic mapping
- We encourage and commit to continued communication between planetary geologic mapping discipline scientists and both the broader planetary community and NASA program managers to ensure a continued high return on NASA's investment



# DRAFT FINDINGS

## *Finding 2*

- The planetary geologic mapping community perceives there to be inconsistencies in review panel comments per program for non-selected proposals that include production of a USGS geologic map. We recommend that:
  - Proposers who intend to produce a USGS geologic map strive to thoroughly address and clearly describe the methods, justification, and relevance of the proposed effort
  - NASA program managers continue to include geologic mappers on review panels containing mapping proposals across ROSES programs
  - NASA program managers continue to remind review panels that USGS-published geologic maps can result from efforts performed under various R&A programs

# DRAFT FINDINGS

## *Finding 3*

- The planetary geologic mapping community recognizes that both USGS-standardized and non-standardized geoscience maps co-contribute to the broader understanding of the geologic frameworks across multiple Solar System objects

# DRAFT FINDINGS

## *Finding 4*

- The PGM community is more healthy when it includes a broad section of geoscience map creators and users. To promote a broadening of the community, we suggest the following:
  - Invite all planetary mappers to attend our annual PGM Meeting
  - Investigate ways to increase training of new mappers (see later slide)



# DRAFT FINDINGS

## *Finding 5*

- The level of scientific investigation that can be included in PDART proposals that will result in a USGS-published geologic map remains a point of confusion to members of the planetary geologic mapping community, particularly when new mapping would occur
- We request clarification from NASA program managers for the types of proposals that are acceptable to various R&A programs, perhaps via hypothetical examples



# DRAFT FINDINGS

## *Finding 6*

- The planetary geologic mapping community is concerned about maintaining an appropriate level of expertise and institutional knowledge in the creation of scale-based planetary geologic maps. We recommend the following:
  - We request an opinion whether NASA would support a proposal to establish a periodic, summer Planetary Geologic Mapping Workshop (modeled after the Hawaii Planetary Volcanology Summer Workshop)
  - The USGS consider establishing geologic mapping internship/post-doc
  - That proposers include, wherever possible, graduate students to help propagate the planetary geologic mapping body of knowledge into a younger generation
  - Consider including geologic mapping training exercises into existing NASA-supported field workshops, where appropriate
  - Build in a training component in each Mapper's Meeting (rotating instructors)
  - If PGMW is approved, NASA should build in student travel grant funding

# DRAFT FINDINGS

## *Finding 7*

- The planetary geologic mapping community recognizes that the annual meeting is an effective venue for discussing issues related to specific mapping projects and the general discipline. In order to expand the effectiveness of the annual meeting, we recommend:
  - Future planetary geologic mappers meeting be scheduled separately from future meetings, or to hold such meetings in series rather than in parallel
  - Inclusion of "break-out" sessions for specific topics related to planetary geologic mapping
  - Inclusion of dedicated, evening poster session(s)
  - Broader advertisement of the annual meeting to ensure that all community mappers are aware and encouraged to attend (beyond those mappers funded to create a USGS-published geologic map)



# DRAFT FINDINGS

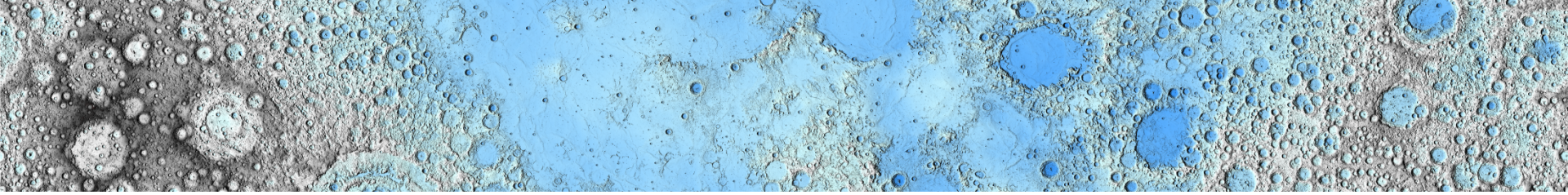
## *Finding 8*

- The planetary geologic mapping community would like to enhance NASA's investment in geologic mapping through improvement in citation of published USGS maps:
  - We as a community need to investigate how our community evaluates geologic map citations
  - We want to encourage the planetary science community to consider published USGS geologic maps as valuable as other peer-reviewed (e.g., journal) publications

# Other Notes

- On flyer, state that PGMM is open to all planetary mappers, regardless of map type or funding
- Next Meeting: Week of June 11-15, 2018 at Univ of Tennessee-Knoxville (Host: Devon Burr)





# Backup Slides

# MAPPING PRIORITIES

## (In the Next Decade(s))

### *Global maps:*

- Mercury (MESSENGER): In Progress
- Venus (Magellan): ??
- The Moon (LROC-WAC): ??
- Phobos and/or Deimos: ??
- Vesta (Dawn): In Progress
- Ceres (Dawn): To be Proposed (2018, 2019)
- Europa (Galileo-Voyager): In Progress
- Enceladus (Cassini): In Progress
- Titan (Cassini): Proposed
- Other Saturnian Icy Satellites (Cassini): ??
- Pluto (New Horizons): Proposed
- Charon (New Horizons): ??



# MAPPING PRIORITIES

## (In the Next Decade(s))

*Regional Mapping Campaigns (hemisphere to quadrants):*

- Mercury (MESSENGER): In Progress
- Venus (Magellan): In Progress
- The Moon (Various): In Progress
- Mars (Various): In Progress

# MAPPING PRIORITIES

## (In the Next Decade(s))

*Local Mapping Campaigns (features & landing sites):*

- The Moon (LROC-NAC, etc.): ??
- Mars (CTX/HRSC, HiRISE): ??